

State of Illinois
Department of Transportation
Division of Highways
Springfield

SPECIFICATIONS
FOR
BITUMINOUS-SAND MIXTURE FOR MAINTENANCE USE

Serial Number: M20-02

1. DESCRIPTION. The bituminous mixture shall be mineral aggregate uniformly coated with liquid asphalt plus additive as further described herein. The mixture shall be prepared hot and sufficiently workable for placing with shovels and power equipment.

2. MATERIALS. Control of the materials shall be in accordance with the general requirements of Section 106 of the current *Standard Specifications for Road and Bridge Construction*. At the discretion of the Engineer, a twenty-five pound sample of the aggregate (s), a one-quart sample of the bituminous material and a one-pint sample of the additive shall be submitted to the Bureau of Materials and Physical research, 126 East Ash Street, Springfield, Illinois, for checking the dosage rate and compatibility of the additive with the other ingredient materials.

(a) Aggregate

Fine Aggregate shall consist of sand, stone sand, or stone screenings of Class B quality or better, as defined in Article 1003.01 of the *Standard Specifications for Road and Bridge Construction*.

(b) Additive

The additive shall be an anti-stripping additive approved by the Department. The additive shall be added to the bituminous material at the dosage rate (0.8 to 1.5 percent by weight of total liquid) recommended by the Engineer and shall be thoroughly mixed for at least four (4) hours prior to being incorporated into the mix. A list of approved additives is available on request.

(c) Bituminous Materials

The bituminous material used shall be liquid asphalt MC 800 conforming to the requirements of Article 1009.09, Medium Curing Liquid Asphalt, or SC800 conforming to requirements of Article 1009.10, Slow Curing Liquid Asphalt, of the *Standard Specification for Road and Bridge Construction*.

3. INSPECTION. The Engineer or his authorized representative shall have access at any time to all parts of the plant in order to verify weights or proportions and character of materials used in the preparation of the mixture. The manufacturer shall afford such facilities as may be required for making inspection at the plant and for collecting and forwarding samples of the bituminous mixture to the Department.

4. PLANT AND EQUIPMENT. Storage facilities and all equipment used in the preparation of the mixture shall be approved by the Department. An approved drier shall be available for surface drying the aggregate when needed. The materials for individual batches shall be measured accurately either by volume or weight, by approved methods and equipment. A batch type mixer of approved design and capacity shall be used in mixing the ingredient materials. However, approval for the use of a continuous mixer may be given if it can be shown that satisfactory results will be obtained.

5. PREPARATION OF MIXTURE. The aggregate shall be surface dry at the time of mixing and shall contain not more than 1.5 percent moisture by weight. Aggregates which do not conform to this requirement shall be dried by natural or artificial means before being used in the mixture. The mixture at the time of mixing shall have a temperature above 66 °C (150 °F). and below the flash point of the bituminous material. The bituminous material shall be heated to such a temperature that it will be workable when used in preparation of the mixture.

6. COMPOSITION OF MIXTURE. The ingredients shall be combined in such a manner as to produce a mixture which when discharged shall be workable. The mixture shall conform to the following composition limits by weight:

Gradation of Extracted Aggregate:

Passing No. 4 sieve	94 -100%
Passing No. 8	60 - 95%
Passing No. 16	35 - 80%
Passing No. 50	8 - 30%
Passing No. 100.....	5 - 15%
Passing No. 200 sieve	0 - 5.0%

Residual Bitumen (Includes Additive).....5.0-9.0%

The percentage of bituminous material shall be determined by the Engineer. The right is reserved to make, at any time during the progress of work, such changes in the proportions of bitumen and aggregate as the Engineer may consider necessary or desirable within the limits of the specifications. After the proportions of the ingredient materials have been set, there shall be no variation from the same without the Engineer's approval.

It is the responsibility of the producer to produce a mixture conforming to the requirements of these specifications and satisfactory to the Department.

Effective February 1, 2002

This specification supersedes Serial Number M 20-95, effective September 1, 1995.

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